Volunteer Lake Assessment Program Individual Lake Reports

POOL POND, RINDGE, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	2,752	**Max. Depth (m):**	4.1	**Flushing Rate (yr^{-1}):**	5.5
Surface Area (Ac.):	119	**Mean Depth (m):**	2.4	**P Retention Coef:**	0.52
Shore Length (m):	3,400	**Volume (m^3):**	1,175,500	**Elevation (ft):**	1009

TROPHIC CLASSIFICATION

Year	Trophic class
1980	MESOTROPHIC
1992	MESOTROPHIC

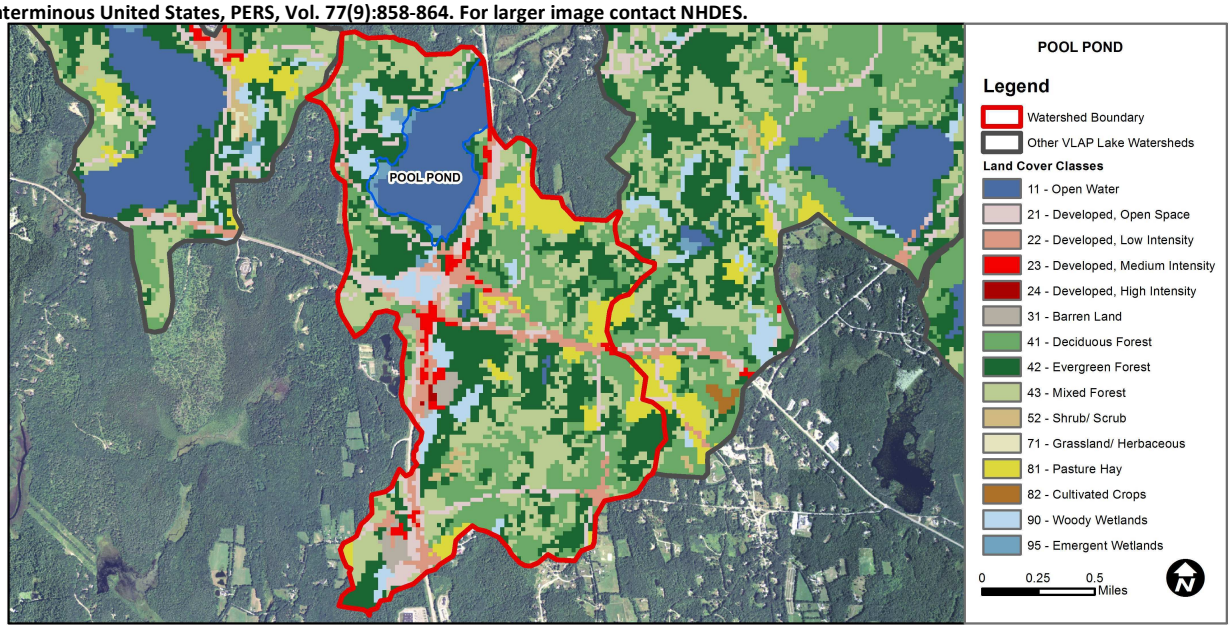
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the DRAFT 2014 305(b) report on the status of N.H. waters, and are based on data collected from 2004-2013. Detailed waterbody assessment and report card information can be found at www.des.nh.gov/organizations/divisions/water/wmb/swqa/index.htm

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	The calculated median is from 5 or more samples and is < indicator and > 1/2 indicator and the chlorophyll a indicator is okay.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Oxygen, Dissolved	Cautionary	There are < 10 samples with 1 exceedance of criteria. More data needed.
	Dissolved oxygen satura	Slightly Bad	There are >10% of samples (minimum of 2), exceeding criteria.
	Chlorophyll-a	Good	The calculated median is from 5 or more samples and is < indicator and > 1/2 indicator.
Primary Contact Recreation	Escherichia coli	Very Good	Where there are no geometric means, all bacteria samples are < 75% of the geometric mean. Where there are geometric means all single bacteria samples are < the SSMC and all geometric means are < geometric mean criteria.
	Chlorophyll-a	Good	There are at least 10 samples with one, but < 10% of samples, exceeding indicator.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	9.09	Barren Land	1.47	Grassland/Herbaceous	0.04
Developed-Open Space	7.49	Deciduous Forest	19.62	Pasture Hay	5.74
Developed-Low Intensity	5.32	Evergreen Forest	23.88	Cultivated Crops	0
Developed-Medium Intensity	1.74	Mixed Forest	19.92	Woody Wetlands	4.38
Developed-High Intensity	0.1	Shrub-Scrub	0.34	Emergent Wetlands	0.89

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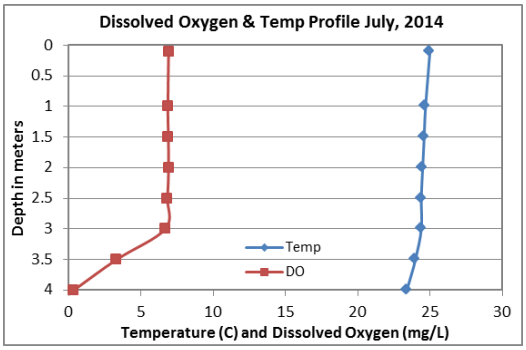
2014 Data Summary

Observations and Recommendations (*Refer to Table 1 and Historical Deep Spot Data Graphics)*

- **Chlorophyll-a:** Chlorophyll levels were slightly above average and greater than the state median in July. Historical trend analysis indicates highly variable chlorophyll levels since monitoring began.
- **Conductivity/Chloride:** Epilimnetic (upper water layer) and tributary conductivity and chloride levels were elevated and greater than the state medians. Historical trend analysis indicates highly variable epilimnetic conductivity since monitoring began. The elevated chloride levels indicate road salting is the cause of the elevated conductivity levels.
- **Total Phosphorus:** Epilimnetic phosphorus was low in July, decreased from 2013 and was less than the state median. Historical trend analysis indicates highly variable epilimnetic phosphorus since monitoring began. Mountain Rd. Inlet and Outlet phosphorus levels were also low. Lily's Inlet and Old Forge Inlet phosphorus levels were slightly elevated and the turbidity was also slightly elevated.
- **Transparency:** Transparency was slightly below average and less than the state median. Transparency decreased from 2013 due to the elevated algal growth. Historical trend analysis indicates significantly decreasing (worsening) transparency since monitoring began.
- **Turbidity:** Epilimnetic turbidity was slightly elevated likely due to the elevated algal growth. Tributary turbidities were also slightly elevated. Tributary flow was low to moderate and lake water levels were high due to recent heavy rains the week earlier.
- **pH:** Epilimnetic and tributary pH levels were less than the desirable range 6.5-8.0 units. Historical trend analysis indicates highly variable epilimnetic pH since monitoring began.
- **Recommended Actions:** Increase monitoring frequency to once per month during the summer, typically June, July and August, to better assess seasonal water quality and historical water quality trends, as well as to decrease the variability among data. Road salting practices have impacted the pond and tributaries. Encourage local road agents and winter maintenance companies to obtain a Voluntary NH Salt Applicator License through the UNH Technology Transfer Center's Green SnowPro Certification Program. Continue Lake Host coverage at the boat launch to monitor the threat of invasive species entering the pond. Keep up the great work!



Station Name	Table 1. 2014 Average Water Quality Data for POOL POND								
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	Total P ug/l	Trans. m		Turb. ntu	pH
						NVS	VS		
Epilimnion	4.30	5.77	48	180.1	9	2.30	3.05	1.97	6.39
Lily's Inlet			47	183.0	19			2.50	6.21
Mountain Rd. Inlet			49	178.9	8			1.37	6.46
Old Forge Inlet			52		19			2.19	6.29
Outlet			44	179.2	8			1.60	6.39

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: > 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: between 6.5-8.0 (unless naturally occurring)

Historical Water Quality Trend Analysis

Parameter	Trend	Explanation	Parameter	Trend	Explanation
Conductivity	Stable	Trend not significant; data highly variable.	Chlorophyll-a	Stable	Trend not significant; data highly variable.
pH (epilimnion)	Stable	Trend not significant; data highly variable.	Transparency	Worsening	Data significantly decreasing.
			Phosphorus (epilimnion)	Stable	Trend not significant; data highly variable.